Ameren Missouri Hedging Practices

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Ameren

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Definition of Hedging

Merriam-Webster Dictionary:

- A means of protection or defense (as against financial loss).

Businessdictionary.com:

- A risk management strategy used in limiting or offsetting probability of loss from fluctuations in the prices of commodities.

Ameren Missouri Practice:

- Use hedges to protect against price or volume risks.

Ameren Missouri Policy:

- Ameren Missouri has a Risk Management Policy approved by its Risk Management Steering Committee that dictates limits and timing of hedge executions.

Objectives of Hedging

Mitigate volatility:

- Hedges provide more certainty (price or volume).

Make prudent decisions:

- Hedges lock costs and revenues.

Hedges are not a margin enhancing tool. Hedges are not intended to create higher profits, but to protect the forecasted margins.

Example of Hedging

Gas fired generator with a 10,000 Heat Rate and 100 MW capacity

Natural Gas Price futures for the Summer $3

Power Price futures for the Summer $40

The generator owner can execute two hedges to lock the margin. One hedge for the Natural Gas protecting from a price increase, and a second hedge for the Power protecting from a price decrease.

Natural Gas Hedge:

Buy Natural Gas at $3.00 – fixing the price of the fuel source – eliminating risk of costs going up

Power Hedge:

Sell Power at $40 – fixing the price of the power sales – eliminating the risk of revenues dropping

OUTCOME OF THE COMBINATION OF THE HEDGES: Lock a margin of $40 – ($3 x 10) = $10 per MWh

What happens if one or both risks was left unhedged:

- Volatility in Margin Would Not Be Reduced - Could Be Higher Or Lower.
- Hedges executed partially could increase volatility compared to doing nothing.
- Risk of negative impacts to margin may be deemed unacceptable
- Hedges Are Not Intended to Create Higher Profits, But to Protect the Forecasted Margins – Reduce Volatility.

Glossary for table on next page

Underlying position:

- An expected long (excess) or short (deficit) of a particular commodity. For example, If Company X owns only one gas fired generator and has no obligations, but expects to generate certain number of MW, the expectation is that the company is short gas (fuel) and long MW

Underlying exposure:

- The price that will be received or paid if no hedging occurs. For example, if we sell no power forward, we will receive the day-ahead price determined by MISO every day.

Tools Used to Hedge:

- Generic examples on some of the tools used to hedge each commodity.

Risk of not hedging

- This column describes the risk we are trying to mitigate. In general we try to fix price while ensuring availability of the commodity.

Examples

Commodity	Underlying Position	Underlying Exposure	Tools Currently Used to Hedge	Primary Risks of Not Hedging
Coal	Utility must procure physical commodity for use in coal generation units.	Without price hedging (and contracting for needed volumes), coal would be purchased on a spot basis (one month or one quarter ahead of generation).	Price hedging is accomplished through physical spot and long-term coal purchase agreements via the OTC market and supplier direct RFPs.	Not price hedging exposes the utiilty and its customers to unlimited market price volatillity in an illiquid market. Also, if long-term contracts are not used (which necessarily results in price hedging the volumes subject to the contracts) the utility and its customers are exposed to the risk that the daily spot market may not have sufficient liquidity to purchase the physical amount of coal and type of coal required for generation.
Diesel (Rail Surcharge)	BNSF and UP Rail Roads charge a fuel surcharge on all PRB coal shipments (Surcharge is based on the monthly average prices of On-Highway Diesel).	Without price hedging, utility would pay rail surcharge based on the monthly average price of On-Highway Diesel.	Cleared financial futures contracts, OTC financial bilateral transactions (swaps and options). Products used to hedge OHD: Nymex Crude Oil, Nymex Heating Oil, Platts Ultra-Low Sulfur Diesel, EIA On-Highway Diesel.	Rail Surcharge language provides for unlimited increase in the price of On-Highway Diesel, exposing the utiilty and customers to the risk of large delivered coal cost changes due to volatility in diesel prices.
Emissions	Utility must surrendors SO2 and NOx emissions allowances based on the tons of SO2 and NOx emitted from each generation unit. (based on CAIR rules)	Without hedging, the utility and its customers would be subject to the spot price of NOx and SO2 emissions allowances.	Sell excess NOx allowances on spot basis as a hedge against NOx becoming worthless due to new emissions regulations.	Daily spot market volatility, not having enough allowances to procure in the spot market, EPA fines for failure to comply with CAIR, excess allowances becoming worthless in the future.
Renewable Energy Credits	Utility must achieve specific Renewable Portfolio Standards. The standard sets the following minimum benchmarks for electric utilities based on annual electricity sales: 2% from 2011 to 2013 (0.04% solar) 5% from 2014 to 2017 (0.1% solar) 10% from 2018 to 2020 (0.2% solar) 15% for 2021 and thereafter (0.3% solar)	Without price hedging (and contracting for needed RECs), the utility and its customers would be subject to the spot price of of S-RECs and Wind RECs.	Price hedging and acquiring needed Solar RECS is accomplished through forward purchase contracts. A long-term PPA is in place for Wind RECs.	Spot market price volatility and allowance availability due to loss of renewable energy federal grants and loss of tax incentives going forward. Not price hedging exposes the utility and customers to volatile price changes and not acquiring needed volumes could cause the utility to fail to comply with the RES.
Power	The utility, typically long power generation in excess of native load requirements, must manage both long and short positions in the MISO power market.	Without price hedging, excess generation or short positions would be sold\bought at day-ahead prices, with some exposure to real-time balancing market.	Cleared futures contracts, options, physical bilateral transactions, and MISO financial products such as virtuals and FTRs.	Daily spot market price volatility; which depends upon weather, MISO system topology, and supply & demand. This exposure may result in a broad range of outcomes for off-system sales margins and purchased power costs.
Gas (LDC)	The gas LDC is naturally short gas supply to serve its customers demand.	About 1/3 to 1/4 of winter demand and 1/2 summer demand is indexed to the market.	Storage, fixed priced bilateral contracts , Nymex futures, swaps, calls and collars.	Without hedging, the PGA paid by the ratepayers is subject to daily price fluctuations. Prices have ranged from less than $2/MMBtu to over $15/MMBtu.
Gas (GEN)	The gas fired generators serve native and OSS. These generators are naturally short gas supply to serve their demand.	About 2/3 of summer native load gas fired generation demand is purchased in the spot market. All the gas to serve gas fired generation OSS are purchased in the spot market.	Storage, fixed priced bilateral contracts , Nymex futures, swaps, calls and collars.	Without hedging, the FAC paid by the ratepayers is subject to daily price fluctuations. Prices have ranged from less than $2/MMBtu to over $15/MMBtu.
U308	Utility must procure physical commodity for use in Callaway nuclear fuel assemblies.	Without price hedging, procurement contracts would default to utility paying a combination of long-term published index and/or spot (short term) index prices.	Fixed bilateral purchase contracts from suppliers to price hedge long-term index exposure, and NYMEX financial contract purchases to hedge short-term index.	The majority of U3O8 procurement contracts allow for unlimited upward price movement.